

A NEW GENUS OF HUNTSMAN SPIDER (HETEROPODIDAE: ARANEAE) FROM SOUTH EASTERN AUSTRALIA

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Summary

HIRST, D. (1989) A new genus of huntsman spider (Heteropodidae: Araneae) from south eastern Australia. *Trans. R. Soc. S. Aust.* 113, 7-13, 31 May, 1989.

A new heteropodine genus, *Keilira*, gen. nov. and two new species, *K. sparsomaculata* sp. nov. and *K. sokali* sp. nov. are described from South Australia and Victoria respectively. *Keilira* differs from other Australian genera in labium shape and the relatively short, thick embolus of the male. The arrangement of cheliceral teeth is similar to that of *Heteropoda* Latreille, 1804, but the general appearance resembles Australian species attributed to *Olios* Walckenaer, 1837, here considered as belonging in *Neosparassus* Hogg, 1903.

KEY WORDS: Araneae, Heteropodidae, *Keilira* gen. nov., new taxa.

Introduction

This paper forms the first part of a taxonomic study on the Australian Heteropodidae. A new heteropodine genus is defined for undescribed species previously mis-identified as *Neosparassus* (subfamily Deleninae Hogg, 1903), which they resemble in general colouring and shape. *Neosparassus* will be discussed fully later (Hirst in prep.), but it may be mentioned here that despite its revalidation by Jarvi (1914) all relevant species have been referred to *Olios* in subsequent literature.

Subfamilies of the Heteropodidae are poorly defined. Some useful characters of the Heteropodinae Keyserling, 1880 are referred to here in associating the new genus with that subfamily. Similarly, characters of the Deleninae are mentioned in comparing *Neosparassus* with *Olios*. Although limits of that subfamily are uncertain, it is retained here as separate from the Eusparassinae (Jarvi 1912) on the basis of genitalic structure.

Materials and Methods

All measurements are in millimetres, made with an eyepiece graticule. Eye diameters, interspaces and MOQ measurements are expressed as relative to the diameter of an AME. Drawings were done with the aid of a camera lucida on a Wild microscope. All abbreviations are standard for the Araneae. Bilateral variability of leg spine counts are indicated in parenthesis. Types are deposited in the South Australian Museum, Adelaide (SAMA), and the Australian Museum, Sydney (AM).

Keilira gen. nov.

Diagnosis: Labium twice as broad as long. Male embolus short, thick relatively straight with a curved

tip. Female with small fossa and hood-like anterior margin.

Definition: Carapace raised, flattish or convex in profile, highest in the fovea region, sloping gently to clypeus. Foveal groove weak or indistinct. Eyes subequal. Anterior eye row slightly recurved. Posterior eye row straight to slightly recurved. Clypeus half width of an AME or slightly less. Cheliceral fang groove with three teeth on promargin, three or four teeth on retromargin and one or more median rows of minute, pointed teeth. Labium at least twice as broad as long, sternum barely longer than broad or equal, slightly convex. Legs 2143. Anterior legs with four ventral pairs of spines on tibia, without an extreme distal pair. Reduced prolateral leg spination, patellae without prolateral spines. Female palp tarsal claw with four small teeth. Female genitalia with paired uncoiled spermathecae. Small fossa with weakly sclerotized hood-like anterior margin. Male embolus short, thick, relatively straight with a curved tip. Palpal tibia with a small prodorsal distal extension and a triangular spur rising from a retrolateral apophysis. *Type species:* *Keilira sparsomaculata* sp. nov.

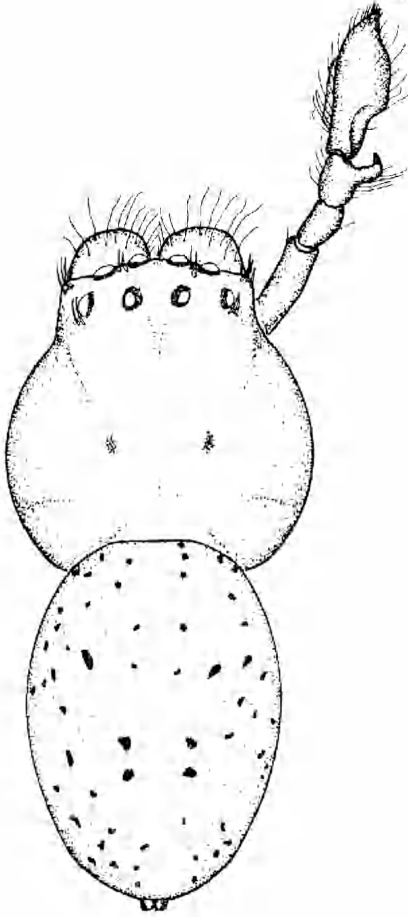
Comments

Although resembling *Neosparassus* in body shape and coloration, the presence of a distal prodorsal extension on the tibia of the male palp and three teeth on the promargin of the chelicerae followed by one or more rows of median teeth, places the genus close to *Heteropoda* and *Panderetes* L. Koch, 1875, the Australian representatives of the Heteropodinae. *Neosparassus* and other genera of the Deleninae lack median teeth and a well defined extension on the male palp tibia.

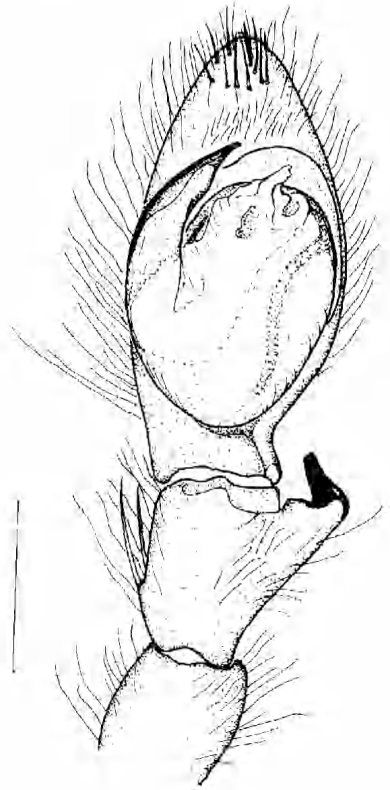
The retromarginal teeth of *Keilira* differ from those of *Heteropoda* and *Panderetes* in that both the latter have four long teeth which are evenly sized and close together with a small space between the two middle teeth. In *Keilira* greater spacing occurs

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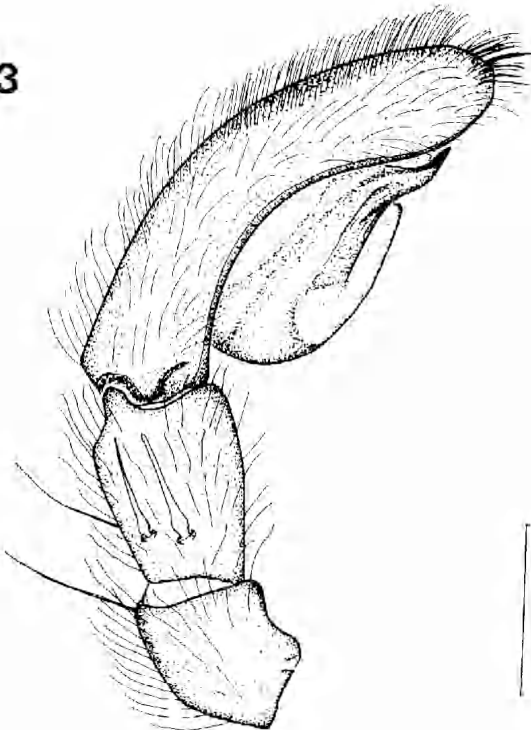
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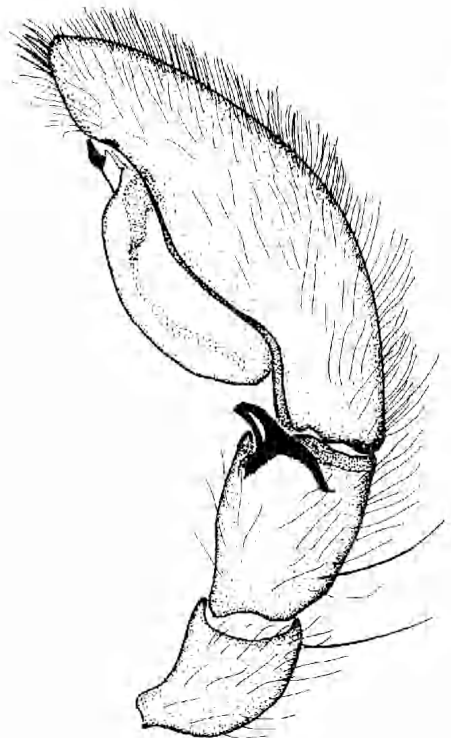
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between the middle and distal teeth (Fig. 8). This placement remains unchanged when a fourth tooth is present, this being minute and found at the proximal end of the row (Fig. 12).

The teeth of the female palp tarsal claws of *Heteropoda* and *Pandercetes* are elongated and curved, as long or longer than the curved claw tip, and comb-like. This condition is approached in at least one other Australian heteropodid, *Olios hermitis* Hogg, 1914, the correct generic status of which is unknown as no mature specimens have been seen. The elongated teeth on the palpal claw are not found in *Keilira*, but as all other Australian genera normally possess at least five teeth, it is unusual in having four.

Keilira and *Pandercetes* have four ventral spine pairs on anterior tibiae but lack a distal pair. While four ventral spine pairs are found in *Heteropoda*, one pair is shorter and positioned distally near the articulation with the metatarsi. This character was used by Kaston (1980) to distinguish *Heteropoda* from *Olios*, the latter having two pairs and lacking an extreme distal pair. *Neosparassus* and most other Deleninae genera have three pairs with the distal pair near the articulation. The exceptions are some species of *Pediana* Simon, 1880 and juvenile specimens of at least *Isopoda* L. Koch, 1875 and *Neosparassus* (juveniles of other genera have not been examined). There, the distal spine is represented as a bristle barely distinguishable from those adjacent on the tibia margin.

Keilira is similar to *Heteropoda* in carapace profile and in having leg I shorter than leg II (*Pandercetes* has a concave carapace profile and leg I longer than leg II), but differs in eye position and relative size of the anterior median eyes. The male bulb, in the unexpanded state, resembles that of *Pandercetes* and, to a lesser extent, *Heteropoda*. *Keilira* lacks the long tapering embolus typical of other Australian heteropodid genera, having a relatively straight, short, thick embolus which tapers at the tip to a blunt point. For much of its length the embolus runs adjacent to the bulb. In *Pandercetes* and *Heteropoda* the embolus is well clear of the bulb for its entire length.

It can be concluded that *Keilira* is referable to the Heteropodinae, yet is distinct from *Heteropoda* and *Pandercetes*. However, it is known that Heteropodinae genera of uncertain status occur in Queensland with five or six ventral spine pairs on anterior tibia. These are not congeneric with *Keilira* (unpubl. data) but appear to be closely related and may prove to be a sister group.

Keilira contains the smallest known Australian heteropodids. Its representation by a handful of specimens from the south-eastern parts of both South Australia and Victoria extends the known range of the Australian Heteropodinae. Little is known of their biology but they appear to have similar habits to *Neosparassus* (Main 1976). Several specimens of *Keilira sparsomaculata* were collected whilst foraging at night on low flowering shrubs (*Leptospermum juniperinum* Sm.), which were attracting abundant insects, a habitat three species of *Neosparassus* have also been found sharing. One juvenile specimen of *Keilira* was found in litter at the base of shrubs during the day.

Etymology: The generic name *Keilira* is derived from Keilira Station, 31 km N.E. of Kingston, S.E. South Australia.

***Keilira sparsomaculata* sp. nov.**

FIGS 1-10

Holotype: SAMA N19875, ♂, 13 km N. of Keilira Station, 36° 37' S, 140° 11' E, S. Aust., Feb. 1974, D. Hirst.

Allotype: SAMA N19876, ♀, same data as holotype.

Paratypes: SAMA N19877, ♀, same data as holotype; SAMA N19878, ♀, Cortina Station, Coorong, 36° 20' S, 139° 46' E, S. Aust. 20.I.1968, A.W. Forbes.

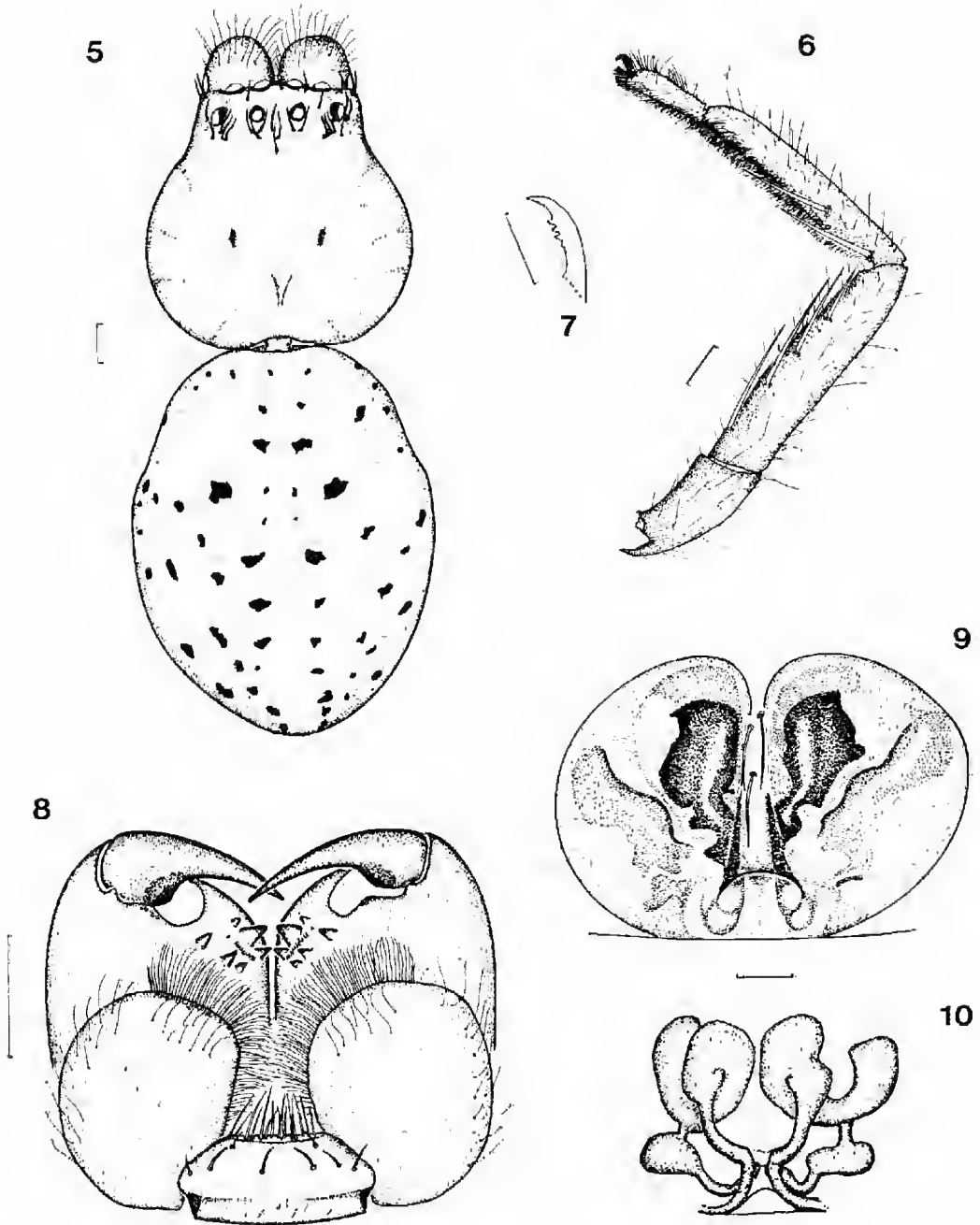
Other material examined: SAMA N19872, Juvenile, Cortina Station, same data as above; SAMA N19873, Juvenile, Kendall Station, Coorong, S. Aust., Mar. 1968, A.W. Forbes; SAMA N19874, Juvenile, Aldinga Scrub, S. Aust., 16. ix. 1987, D. Hirst.

Description of holotype (Figs 1-4) Carapace length 2.90, width 2.85. Abdomen length 3.40, width 2.20.

Colour in alcohol: Yellow-brown carapace with pair of median black, short linear markings with adjacent spots, anterior of fovea. Caput with darker suffusion in ocular region, eyes with black rims. Chelicerae reddish-yellow. Sternum yellowish. Legs; anterior pairs yellow-orange, posterior pairs yellow, palps yellow. Abdomen creamish-white with small scattered spots of black pigment, fewer ventrally.

Carapace: Convex, highest between II coxae sloping gradually to clypeus, steeply to posterior. Fovea indistinct, marked by darker pigment. Setae sparse, short (ca 0.2), moderately long (ca 0.4) bristles around ocular region, few on caput between eyes and fovea and along lower margin of clypeus.

Eyes: In two rows, from above anterior row slightly recurved, posterior row straight. AME



Figs. 5-10, *Keilira sparsomaculata* gen. et sp. nov. Allotype female, 5-8: 5 body, dorsal; 6 right leg I, prolateral; 7 tarsal claw; 8 chelicerae, maxillae and labium. Paratype female (SAMA N19878), 9-10: 9 epigyne; 10 vulva, ventral. Scale lines: Figs 5-6, 8 = 0.5mm; figs 7, 9-10 = 0.1mm.

diameter 0.20. AME : ALE : PME : PLE = 1 : 1 : 0.9 : 0.9. Interspaces: AME - AME 0.8 ; AME - ALE 0.5 ; PME - PME 1.55 ; PME - PLE 1.55 ; AME - PME 1.1 ; ALE - PLE 1. MOQ: anterior width : posterior width : length = 2.75 : 3.4 : 2.65.

Chelicerae: Length 1.20, width 1.69, geniculate, almost glabrous, setae long (ca 0.6), shorter on retromargins. Three rows of teeth on fang groove; three teeth on promargin, middle tooth largest, three teeth on retromargin, middle and distal teeth about equal, median row of about eleven minute pointed teeth, placed posterior to middle tooth of promargin row. Labium: Length 0.30, width 0.70, emarginate postero-laterally, six short setae in recurved row across anterior half with one near anterior margin midway towards each lateral edge. Longer setae on anterior margin, few setae on posterior half. Maxillae: Length 0.75, width 0.63, slightly converging, setae long. Sternum: Length 1.25, width 1.22, slightly convex, setae long.

Legs: (Table 1). Scopula sparse. Spines: Leg I, fe d2 p2 r3 (2 on right fe), ti r1 v8, mt v4; Leg II, fe d2 p3 r1, ti v8, mt v4; Leg III, fe d2 p3, ti v4, mt p2 v4; Leg IV, fe d2 p1, ti p1 v3, mt p2 v4; Palp, fe d2 p1 all distal, ti p2. Claws: Teeth small with about 6 on proclaw, 4-5 on retroclaw.

Abdomen: Setae of short to moderate length. Spinnerets: ALS basal segment 0.30, apical segment 0.08, PLS 0.20, 0.08.

Palps: (Figs 2-4) Tibia retrolaterally with apophysis carrying a short triangular blunt-tipped spur. Embolus thick, short, straight for the most part along prolateral side of cymbium, then curved inwards with a short blunt tip.

Description of allotype (Figs 5-10): As in holotype but for the following: Carapace length 3.51, width 3.50. Abdomen length 5.10, width 3.80.

Colour in alcohol: Abdomen creamish with larger black spots.

Eyes: AME diameter 0.24. AME : ALE : PME : PLE = 1 : 1.04 : 0.92 : 0.92. Interspaces: AME - AME 0.67; AME - ALE 0.5; PME - PME 1.3; PME - PLE 1.5; AME - PME 1; ALE - PLE 0.92. MOQ: Anterior width: posterior width: length = 2.8 : 3.2 : 2.6.

Chelicerae: Length 1.60, width 2.10. Labium: Length 0.36, width 0.80. Maxillae: Length 0.94, width 0.71. Sternum: Length 1.80, width 1.80.

Legs: (Table 1). Spines: Leg I, fe (3 on right), ti r2; Leg II, fe (2 on right); Leg IV, fe p2, mt p3 r1.

Spinnerets: ALS basal segment 0.36, apical segment 0.08, PLS 0.30, 0.10.

Genitalia: Epigynum a low mound, highest posteriorly, small fossa with weakly sclerotised hood-like anterior margin (Fig. 9). Vulva paired, copulatory openings inside hood, spermatheca

leading to a curved receptaculum shortly joined to a smaller receptaculum (Fig. 10).

Etymology: The specific name refers to the widely scattered spots on the abdomen.

Keilira sokoli sp. nov.

FIGS 11-15

Holotype: AM KS19141, ♂, Holy Plains State Park, 38° 13' S, 146° 51' E, Vict., 29. iii. 1980, A. Sokol.

Description of Holotype: Similar to *K. sparsomaculata* except as follows: Carapace length 3.44, width 3.22. Abdomen length 3.90, width 2.20.

Colour in alcohol: With blackish markings laterally on carapace. Abdomen with numerous spots.

Carapace: Raised but flattish above, highest in foveal region, fovea distinct.

Eyes: Both rows slightly recurved, AME diameter 0.20. AME : ALE : PME : PLE = 1 : 0.9 : 0.8 : 0.9. Interspaces: AME - AME 1 ; AME - ALE 0.9 ; PME - PME 1.7 ; PME - PLE 1.6 ; AME - PME 0.9 ; ALE - PLE 0.8. MOQ: Anterior width : posterior width : length = 3.0 : 3.4 : 2.3.

Chelicerae: Length 1.44, width 1.72. Retromargin with four teeth, irregular median rows of 8 - 13 minute teeth arranged in triangular area with apex pointing distally. Labium: Length 0.36, width 0.76. Short setae on posterior half. Sternum: Length 1.76, width 1.70.

Legs: (Table 2). Spines: Leg I fe d1 p2 r3, ti r2 v8, mt p1 r2 v4; Leg II, fe d1 p2 r2, ti r1 v8, mt p2 r2 v4; Leg III, fe d2 p2, ti p2 r2 v4, mt p2 r2 v4; Leg IV, fe d1 p1 ti v4, mt p1 r3 (2 on right) v4; Palp, fe d2 p1, all distal, ti d1 p2 r1.

Palp: Tegulum more positioned more basally in cymbium than in *K. sparsomaculata* and enlarged retrolaterally at proximal end. Embolus extending further to prolateral side, distal half straighter. Tibial spur longer and more upright on larger apophysis.

Etymology: The species is named after the collector, A. Sokol.

Remarks

Known only from the holotype, *K. sokoli* is separated from *K. sparsomaculata* by the flatter carapace, four retrolateral teeth on the fang margin, several irregular rows of median teeth and abdomen with more numerous spots. Its habits are not known.

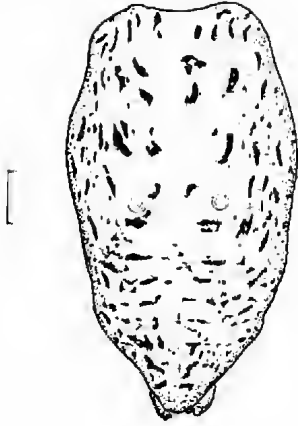
Acknowledgments

The completion of this paper was supported by an Australian Biological Resources Study grant. Special thanks go to Dr D. C. Lee for his helpful comments on manuscript preparation. Also to Dr M. Gray and C. Horsman (AM) for the loan of material and assistance.

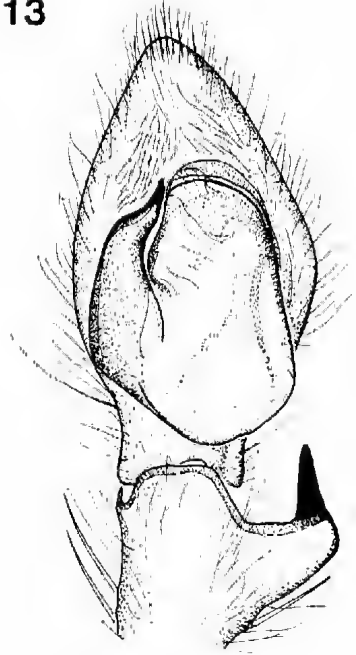
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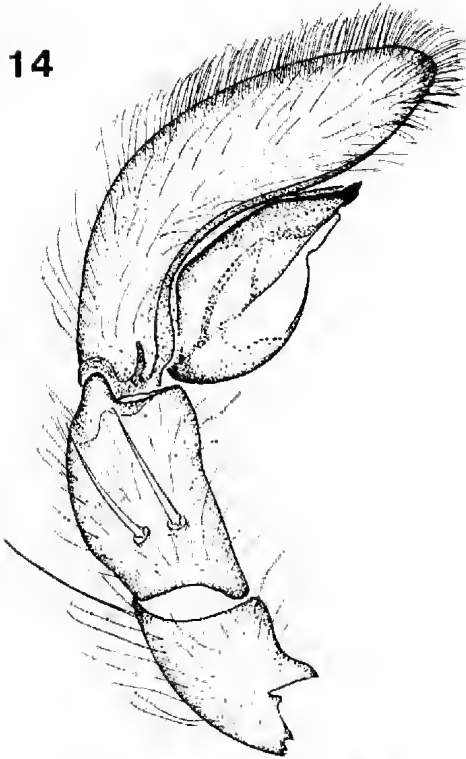
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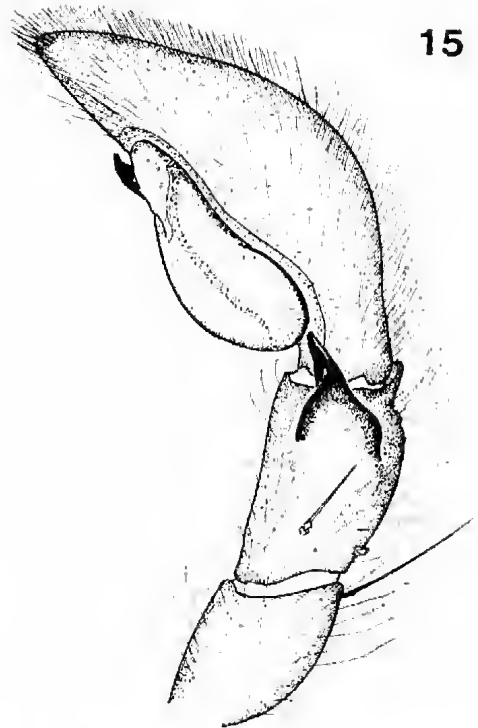
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Figs 11-15. *Keilira sokoli* gen. et sp. nov. Holotype male: 11 Abdomen, dorsal; 12 cheliceral teeth, left retrolateral; 13-15 left palp; 13 ventral; 14 prolateral; 15 retrolateral. Scale lines: Figs 11, 13 - 15 = 0.5mm; Fig. 12 = 0.1mm.

TABLE 1. *Leg measurements of Keilira sparsomaculata gen. et sp. nov. values for holotype male with allotype female in parentheses.*

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	2.85 (3.32)	1.55 (1.84)	2.58 (2.82)	2.50 (2.92)	0.90 (1.12)	10.38 (12.02)
II	3.21 (3.68)	1.69 (2.00)	2.92 (3.16)	2.92 (3.16)	0.98 (1.24)	11.72 (13.24)
III	2.32 (2.56)	1.12 (1.38)	1.70 (1.96)	1.69 (1.81)	0.80 (0.95)	7.63 (8.86)
IV	2.45 (2.84)	1.15 (1.36)	2.00 (2.24)	2.15 (2.40)	0.88 (1.00)	8.63 (9.84)
Palp	1.00 (1.00)	0.52 (0.74)	0.49 (0.80)	-	1.50 (1.52)	3.51 (4.06)

TABLE 2. *Leg measurements of Keilira sokoli gen. et sp. nov. of holotype male.*

Leg	Femur	Patella	Tibia	Metatarsus	Tarsus	Total
I	3.48	1.83	3.30	3.20	1.04	12.85
II	4.20	1.95	3.84	3.58	1.14	14.71
III	2.88	1.38	2.18	2.04	0.84	9.32
IV	3.34	1.30	2.52	2.64	0.92	10.72
Palp	1.10	0.66	0.67	-	1.50	3.93

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